

**M. EUGENE AND ZENNA MAE BRIDGES**

5459 High Noon Lane  
Las Vegas, NV 89118  
Telephone 702-873-8829  
E-Mail: [Mebridges@aol.com](mailto:Mebridges@aol.com)

January 18, 2007

Re: St. George Meeting Concerning Effect of Nevada Nuclear Fallout on Utah

**I. FAMILY**

**A. PARENTS**

1. M. EUGENE BRIDGES AND ZENNA MAE SCHMID BRIDGES

**B. CHILDREN**

1. EUGENE LAMONT (LONNIE)
2. JULIA ANN EDWARDS
3. MELISSA LEIGH WOOD
4. DAVID KEVIN
5. CYNTHIA MARIE MORTENSEN
6. LAURIE MICHELLE MAYS
7. JONATHAN CHARLES

**C. RESIDENCY**

1. PARENTS RESIDED IN SALT LAKE CITY FROM 1947 TO 1998
2. CHILDREN WERE ALL BORN AND REARED IN SALT LAKE CITY
3. RESIDED AT 163 NORTH STATE ST. IN 1952/FEB. 1954 WITH LONNIE AND JULIA

**II. OPENING STATEMENT: GOVERNOR HUNTSMAN IS TO BE COMMENDED FOR**

TRYING TO ADDRESS AND RESOLVE THE ISSUE OF THE EFFECT OF THE  
NEVADA TEST SITE NUCLEAR FALLOUT ON RESIDENTS IN UTAH.

HOWEVER, IT IS LUDICROUS THAT SUCH A MEETING HAS TO BE HELD

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November 17, 2006

The Honorable James D. Matheson  
United States House of Representatives  
240 East Morris Ave., #235  
South Salt Lake, UT 84115

Dear Congressman Matheson:

Our oldest son died in Salt Lake City in December 1956 at age 7 from a combination of lymphosarcoma and acute myelogenous leukemia. It was the first such case our doctors had seen and was extremely fast acting since he lived for only 28 days after being diagnosed.

We have written a book about our experiences with our son and have done years of research to determine if there was dangerous nuclear fallout from the Nevada Test Site which dropped on the Salt Lake area, and if so, could it have contributed to the diseases that killed our son? The answers are "yes" to both questions. My study commenced in 1997 and has continued to the present although the basic contents of the book were completed several years ago. Additional details concerning the testing and the fallout continue to surface from time to time as evidenced by Dr. Lyon's review and update of a 1993 study which was grossly inaccurate at the time it was originally done.

Although we presently live in Las Vegas, Nevada, our home from 1947 until the end of 1998 was in Salt Lake City. Consequently, we have more ties to Utah than anywhere else. We are contacting you concerning a proposal we have since you have expressed more interest than most Congressional members in what effect the Nevada fallout has had on the American people, particularly throughout all of Utah. However, others who may have an interest are Senator Hatch, Senators from Idaho and Montana, and Congresswoman Shelley Berkley from Nevada.

My research has revealed details about how the testing was conducted and the horrendous effect it had on people throughout the country who were exposed to the radioactive fallout. Further, the various studies that were done by credible scientists in various locations in the United States since the early 1960's and a hearing held in Salt Lake City in July 2004 reveal just how extensive the damage to many persons across the country has been. Unfortunately the limitations placed in the 1990 Radiation Exposure Compensation Act and its amendments in 2000 have had the effect of falsely inferring that everyone who was affected by the fallout has been recognized and compensated which is simply not the case.

## COMPARATIVE STATISTICS

<u>NAME OF EVENT</u>	<u>NUMBER KILLED</u>	<u>NUMBER OF INJURED WHO DIED</u>
FIRE BOMBING OF LONDON	62,000	UNKNOWN
FIRE BOMBING OF DRESDEN	100,000	UNKNOWN
PEARL HARBOR	4,740	UNKNOWN
FIRE BOMBING OF TOKYO	83,000	UNKNOWN
ATOMIC BOMBING OF HIROSHIMA	70,000	130,000
ATOMIC BOMBING OF NAGASAKI	36,000	114,000
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USA TODAY - FEB. 8, 2002  
 S. PACIFIC & RUSSIAN  
 FALLOUT HIT W. COAST 10,000 TO 15,000  
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## NEVADA TEST SITE FALLOUT RADIATION

	<u>DEATHS</u>	<u>EXPOSURE</u>
DR. ERNEST J. STERNGLASS STUDY	400,000 INFANT DEATHS BY 1969 (ESTIMATED)	UNKNOWN
NATIONAL CANCER INSTITUTE (1997)	UNKNOWN	10,000 TO 75,000
NATIONAL ACADEMIES STUDY IN 2004	UNKNOWN	500,000 TO 1,000,000
DEPARTMENT OF ENERGY (FORMERLY AEC)	NO DATA AVAILABLE	NO DATA AVAILABLE

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January 18, 2007

**COMPARATIVE STATISTICS**

B. THE SECOND IS THE PRESENT WORTH OF THE \$50,000 AWARD ENCOMPASSED IN THE 1990 RECA. OVER THE 14 YEARS THAT HAVE PASSED THE \$50,000 WOULD NOW BE WORTH \$113,000 ASSUMING AVERAGE ANNUAL EARNINGS OF 6% COMPOUNDED ANNUALLY. THIS IS STILL LESS THAN THE \$150,000 TAX FREE AWARD PLUS MEDICAL SERVICES THAT WORKERS AT NUCLEAR FACILITIES RECEIVED A COUPLE OF YEARS AGO AT THE REQUEST OF ENERGY SECRETARY BILL RICHARDSON. THERE SHOULD BE SOME ADJUSTMENT FOR THE CITIZENS IN NORTHERN UTAH TAKING INTO CONSIDERATION THE TIME DIFFERENTIAL AND OTHER AWARDS THAT ARE CURRENTLY BEING GIVEN.

VIII. IN CONCLUSION, THIS IS SIMPLY A MATTER OF FINALLY OBTAINING SOME JUSTICE FOR THE "FORGOTTEN PATRIOTS" OF THE COLD WAR WHO LIVED IN THE SALT LAKE CITY AREA AND NORTHERN UTAH. RECOGNITION OF THESE PEOPLE IS LONG OVER-DUE SINCE THE FACTUAL EVIDENCE OF HOW THEY WERE AFFECTED BY THE RADIOACTIVE FALLOUT FROM THE NEVADA TEST SITE HAS EXISTED FOR MANY YEARS. IT IS TRULY TIME THAT THE DISCRIMINATION AGAINST THESE PEOPLE COMES TO AN END.!



- J. LONNIE HAD UNUSUALLY HEAVY BLEEDING AND WEAKNESS IN THE SUMMER AND FALL OF 1956, AND A LONG PERIOD OF TIME BETWEEN THE LOSS OF HIS BABY TEETH AND THE INCOMING PERMANENT TEETH. THESE ARE INDICATIVE OF EXPOSURE TO RADIATION
  - 1. MODERN FORENSICS COULD BE UTILIZED IN TESTING LONNIE'S BABY TEETH AND A LOCK OF HAIR TO DETERMINE IF THERE IS A PRESENCE OF THE THREE LONGER HALF-LIFE RADIONUCLIDES
- VI. THERE WAS OTHER NUCLEAR RESEARCH AFFECTING NORTHERN UTAH
  - A. IN 1998 IT WAS REVEALED THAT WEAPONS CONTAINING RADIOACTIVE MATERIAL THAT COULD BE USED FOR LETHALLY CONTAMINATING STRATEGIC AREAS WERE BEING TESTED AT DUGWAY PROVING GROUNDS ABOUT 75 MILES SOUTHWEST OF SALT LAKE CITY. THESE TESTS RESULTED IN RADIATION BEING RELEASED INTO THE ATMOSPHERE FOR WHICH NO TRACKING INFORMATION WAS FOUND.
  - B. OTHER TESTS AT DUGWAY PROVING GROUNDS INCLUDED INTENTIONAL MELT-DOWNS OF EIGHT SMALL NUCLEAR TEST REACTORS. EACH RELEASED FROM 15 TO 200 TIMES THE RADIATION RELEASED AT THREE MILE ISLAND. THIS RADIATION WAS TRACKED AS FAR AS INTERSTATE 80 AT THE SOUTH END OF THE GREAT SALT LAKE. THE DENSITY OF THE PARTICULATE IN THE RADIATION CLOUD OR WHERE IT WENT BEYOND I-80 DOES NOT SEEM TO BE KNOWN.
  - C. IN RESEARCHING WHAT HAD OCCURRED AT DUGWAY PROVING GROUNDS, SOME MINUTES OF ONE OF THEIR MEETINGS THAT HAD BEEN RELEASED UNDER THE "FREEDOM OF INFORMATION ACT" REVEALED THE FOLLOWING INFORMATION THAT WAS PROVIDED BY RESEARCHERS FROM THE UNIVERSITY OF ROCHESTER TO THE CHEMICAL CORP ADVISORY COUNCIL ON NOVEMBER 6, 1952: (1) EXPOSURE TO WHOLE BODY GAMMA RADIATION WILL UNDOUBTEDLY INCREASE THE INCIDENCE OF **NORMALLY ENCOUNTERED** DISEASES IN THE EXPOSED POPULATION, AND (2) A CONTAMINATION LEVEL OF 2-1/2 MEGA CURIES OF RADIATION PER SQUARE MILE FOR 30 DAYS WOULD KILL 50% OF THE POPULATION IN THE EXPOSED AREA.
- VII. THERE ARE SOME PRESENT DAY CONSIDERATIONS THAT NEED TO BE LOOKED AT IN VIEW OF THE HORRENDOUS TIME LAPSE SINCE THE OCCURRENCE OF THE EVENTS ENCOMPASSED THIS HEARING.
  - A. ONE IS THE LACK OF AVAILABILITY OF MEDICAL RECORDS SINCE MEDICAL PEOPLE ATTENDING THE CASES IN QUESTION MAY HAVE DIED AND HOSPITALS MAY HAVE CHANGED OWNERSHIP WITH THE RESULT THAT MEDICAL FILES IN MANY INSTANCES ARE PROBABLY LOST FOREVER. A LOGICAL AND REASONABLE STANDARD OF POSSIBLE EXPOSURE SHOULD BE IMPLEMENTED IN THESE CASES IN LIEU OF MEDICAL RECORDS OTHER THAN A DEATH CERTIFICATE

1961, SEP. 15	NOUGAT: ANTLER	2.6 KT
1962, APR. 14	NOUGAT: PLATTE	1.85 KT
1962, JUL. 6	STORAX: SEDAN	104 KT
1962, JUL. 14	STORAX: SMALL BOY	(LOW YIELD)

- D. THE HALF LIVES OF THE FOUR MAJOR RADIONUCLIDES, THE SHORT TIME BETWEEN MANY OF THE SHOTS AND THE CUMULATIVE PROBLEM INHERENT WITH RADIATION CREATED A CRITICAL HEALTH HAZARD THROUGHOUT THE SALT LAKE CITY AREA AND ALL OF UTAH
- E. IN ADDITION TO THE FALLOUT DIRECTLY OVER THE SALT LAKE CITY AREA, FALLOUT FROM OTHER SHOTS FELL NORTH, SOUTH AND WEST OF THE AREA EXPOSING THE ENTIRE WASATCH FRONT AREA TO FALLOUT

V. EVIDENCES THAT INDICATE LONNIE'S ILLNESS WAS RADIATION RELATED

- A. AT AGES 3 AND 4 HE LIVED ON NORTH STATE STREET BELOW THE CAPITOL
- B. FALLOUT CLOUDS OFTEN FOLLOWED WEATHER PATTERNS AND TENDED TO DROP FALLOUT MORE HEAVILY ON BENCH AREAS THAN IN THE VALLEY
  - 1. PARTICULATE IN A FALLOUT CLOUD VARIED IN SIZE FROM SMALL PIECES OF RADIOACTIVE MATERIAL TO PARTICULATE THAT WAS AS SMALL AS WATER VAPOR. USUALLY THE HEAVIER PARTICULATE DROPPED OUT FIRST AND THE LIGHTER PARTICULATE TRAVELED FARTHER BEFORE DESCENDING TO EARTH.
- C. HE OFTEN PLAYED OUTSIDE WITH A NEIGHBOR BOY
- D. HE LIVED IN A SMOKE/DRUG FREE ENVIRONMENT AND WAS NOT EXPOSED TO OUTDOOR CARCINOGENS SUCH AS INSECTICIDES AND WEED KILLERS
- E. LONNIE'S SURGEON WHO REMOVED THE SARCOMA WAS THE CHIEF SURGEON AT HOLY CROSS HOSPITAL. BOTH HE AND LONNIE'S PEDIATRICIAN HAD NOT SEEN OR KNOWN OF A COMBINATION OF LYMPHO-SARCOMA AND ACUTE MYELOGENOUS LEUKEMIA BEING FOUND IN A YOUNG CHILD; THEIR SUBSEQUENT RESEARCH FOUND ONLY ONE CASE THAT HAD SOME SIMILARITIES.
- F. DR. ARCHER FOUND THAT ACUTE AND MYELOID TYPES OF LEUKEMIA AMONG CHILDREN HAD THE STRONGEST ASSOCIATION WITH THE FALLOUT
- G. LONNIE WAS DIAGNOSED ON DECEMBER 6 AND DIED ON DECEMBER 29, AN UNUSUALLY SHORT TIME FRAME
- H. LONNIE'S AUTOPSY REVEALED THAT HIS INTERNAL ORGANS HAD DISINTEGRATED WHICH IS INDICATIVE OF EXPOSURE TO A HIGH LEVEL OF PLUTONIUM
- I. THE GESTATION PERIOD OF LEUKEMIA OF TWO TO FIVE YEARS WOULD PLACE LONNIE INTO AN EXPOSURE TIME TABLE OF 3-1/2 YEARS FROM THE 1953 SHOTS THAT DROPPED HEAVY FALLOUT ON THE SALT LAKE CITY AREA

IV. FALLOUT THAT FELL ON SALT LAKE CITY AREA

- A. THE BOOK OF RICHARD L. MILLER, "UNDER THE CLOUD, THE DECADES OF NUCLEAR TESTING" CONTAINS FALLOUT TRAJECTORIES TAKEN FROM GOVERNMENT RECORDS OF MANY OF THE SHOTS
- B. PRIOR TO 1957 - THERE WAS FALLOUT FROM 13 SHOTS, TWO OF WHICH DEVELOPED INTO HOTSPOTS
1. HOTSPOTS ARE AREAS WHERE RADIOACTIVE PARTICULATE HAS CONCENTRATED RESULTING IN A HIGHER RADIATION EMISSION

<u>DATE OF SHOT</u>	<u>SHOT SERIES &amp; NAME</u>	<u>YIELD</u>
1951, NOV. 29	JANGLE: UNCLE	1.2 KT
1952, APR. 15	TUMBLER-SNAPPER: BAKER	1 KT
1952, MAY 7	TUMBLER-SNAPPER: EASY	12 KT (8,000,000 D/M/SQ. FT)
1953, MAR. 24	UPSHOT-KNOTHOLE: NANCY	24 KT (15,000,000 D/M/SQ. FT)
1953, APR. 15	UPSHOT-KNOTHOLE: BADGER	23 KT
1953, APR. 19	UPSHOT-KNOTHOLE: BADGER	BECAME HOTSPOT (30,000 D/M/SQ. FT)
1953, MAY 19	UPSHOT-KNOTHOLE: HARRY	32 KT
1953, JUN. 4	UPSHOT-KNOTHOLE: CLIMAX	61 KT
1955, MAR. 7	TEAPOT: TURK	43 KT
1955, MAR. 29	TEAPOT: APPLE 1	14 KT
1955, MAY 5	TEAPOT: APPLE 2	29 KT
1955, MAY 15	TEAPOT: ZUCCHINI	28 KT (HOTSPOT)

2. SALT LAKE HAD LITTLE OR NO MONITORING OF THE RADIOACTIVE FALLOUT BUT SOME OF THE FALLOUT WAS MEASURED BY EQUIPMENT GIVING READINGS OF HOW MANY DISINTEGRATIONS PER MINUTE PER SQUARE FOOT THE FALLOUT PRODUCED INDICATING ACTIVITY RATHER THAN AMOUNT OR STRENGTH.

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- C. SUBSEQUENT TO DECEMBER 1956 - FALLOUT FROM AT LEAST EIGHT SHOTS, PERHAPS MORE

1957, MAY 28	PLUMBOB: BOLTZMANN	12 KT
1957, AUG. 23	PLUMBOB: DOPPLER	11 KT
1957, AUG. 31	PLUMBOB: SMOKY	44 KT
1957, SEP. 16	PLUMBOB: NEWTON	12 KT



- ii. DR. KNAPP DISCOVERED THE WINDSCALE REPORT QUITE BY CHANCE
  - iii. KNAPP AND OTHER RESEARCHERS BEGAN SHIFTING THEIR STUDIES FROM STRONTIUM-90 TO IODINE-131 AS A LEUKEMIA/CANCER CARCINOGEN
- 2. CESIUM-137 WITH A HALF LIFE OF 30.07 YEARS
  - a. THE DECAY PROCESS PRODUCES BETA PARTICLES, GAMMA RAYS, X-RAYS AND LOW ENERGY (AUGER) ELECTRONS
  - b. IT REPLACES MAGNESIUM IN DNA CELL DIVIDING AND MUTATES CELLS
- 3. STRONTIUM-90 WITH A HALF LIFE OF 28.79 YEARS
  - a. ITS PROPERTIES ARE SIMILAR TO CALCIUM AND IT IS READILY ABSORBED AND STORED IN THE BODY AND BONE STRUCTURE
  - b. IT GENERATES BETA PARTICLES AND EMITS GAMMA RADIATION AFFECTING THE BLOOD
- 4. PLUTONIUM (THREE ISOTOPES)
  - a. P-238 WITH A HALF LIFE OF 87.7 YEARS
  - b. P-239 WITH A HALF LIFE OF 24,110 YEARS
  - c. P-240 WITH A HALF LIFE OF 6,563 YEARS
  - d. IN GENERAL, PLUTONIUM GRAVITATES TO THE BONE STRUCTURE AND MUTATES CELLS
  - e. IT IS EXCRETED SLOWLY AND SETTLES IN VITAL ORGANS CAUSING HEMORRHAGING, SHRINKAGE AND DESTRUCTION OF THE TISSUES
- 5. THE HALF LIFE OF AN ELEMENT OR ISOTOPE IS THE FREQUENCY WHICH ALPHA PARTICLES PENETRATE AN ATOM'S NUCLEUS SHELL
- 6. AS A GENERAL RULE BETA PARTICLES ARE NOT STRONGLY PENETRATING, BUT PRODUCE SURFACE BURNS AND LOSS OF HAIR WHILE GAMMA RAYS AND X-RAYS ARE PENETRATING AND ADVERSELY AFFECT CELLS.
- E. EXPOSURE TO RADIOACTIVE FALLOUT BY DIRECT INGESTION OF RADIOACTIVE PARTICLES OR CONTACT WITH GROUND CONTAMINATION WOULD LIKELY INCLUDE ALL FOUR OF THESE RADIONUCLIDES WHICH, IN ESSENCE, MAKES THEM THE FOUR HORSEMEN OF DEATH.
  - 1. STUDIES I HAVE RESEARCHED FOCUS ON ONLY ONE RADIONUCLIDE; THERE SEEMS TO BE NO STUDY COVERING THE COMBINED EFFECT OF ALL FOUR RADIONUCLIDES

- a. DR. VICTOR E. ARCHER FROM THE UNIVERSITY OF UTAH STATED, "THERE IS NO KNOWN CHEMICAL LEUKEMOGENIC AGENT THAT FILLS THE CRITERIA OF SUDDEN INTRODUCTION IN THE EARLY 1950'S, WITH PARTIAL WITHDRAWAL IN THE 1959/1960 PERIOD, AND COMPLETE WITHDRAWAL IN 1964. ONLY THE RADIATION FROM NUCLEAR FALLOUT (A KNOWN LEUKEMOGEN) APPEARS TO BE ABLE TO FULFILL THAT CRITERIA."
  - i. HIS STUDIES INCLUDED NOT ONLY UTAH BUT ALSO THE ENTIRE UNITED STATES
3. DRS. JOHN W. GOFMAN AND ARTHUR R. TAMPLIN CONCLUDED FROM THEIR STUDIES THAT THERE IS NO SAFE LEVEL OF RADIATION. EVEN LOW LEVEL RADIATION CAN HAVE AN EVENTUAL ADVERSE EFFECT ON PHYSIOLOGY ESPECIALLY IF THERE IS REPEATED EXPOSURE SUCH AS WITH X-RAYS.
  - a. THE RADIUM DIAL PAINTERS USING RADIUM BASED PAINT TO PAINT INSTRUMENTS WERE AFFECTED BY THE LOW LEVEL RADIATION EMITTED FROM THE PAINT. STUDIES WERE CONDUCTED FROM 1947 TO 1970.
4. A STUDY DONE IN 1980 BY DRS. HAROLD BECK AND PHIL KREY OF RADIONUCLIDES DEPOSITED IN UTAH FROM THE FALLOUT FOUND THAT RESIDENTS OF THE SALT LAKE AREA RECEIVED A GREATER EXPOSURE THAN MOST OTHER AREAS OF UTAH. THEY ALSO FOUND THAT PLUTONIUM DEPOSITS IN UTAH WERE 3.8 TIMES HIGHER THAN ANYWHERE ELSE IN THE UNITED STATES. THE PRESENCE OF A HIGH LEVEL OF CESIUM-137 WAS ALSO FOUND.
- D. MY RESEARCH FOUND THAT OF THE OVER 300 RADIONUCLIDES GENERATED BY FISSION BOMBS OR FROM FUSION BOMBS USING FISSION MATERIAL AS A TRIGGER THERE WERE FOUR THAT WERE KILLERS. THESE ARE:
  1. IODINE-131 WITH A SHORT HALF LIFE OF 8 DAYS
    - a. IT GRAVITATES TO THE THYROID, ESPECIALLY IN CHILDREN
    - b. IN THE THYROID, IT BECOMES MORE CONCENTRATED, HENCE IT EMITS MORE GAMMA RADIATION AND IS MORE DANGEROUS TO THE BODY
    - c. IODINE-131 READILY GOES THROUGH THE FOOD CHAIN ESPECIALLY MILK- CATTLE FEED, COWS, MILK AND THE CONSUMER OF THE MILK
    - d. THE WINDSCALE INCIDENT IN ENGLAND IN 1957 FIRST REVEALED THE PROBLEM WITH IODINE-131 AND MILK IN THE FOOD CHAIN
      - i. GORDON DUNNING, THE "PROTECTOR" OF THE NEVADA NUCLEAR TESTING WAS AWARE OF THE WINDSCALE PROBLEM BUT HAD NOT MADE ANYONE ELSE AWARE OF IT

CANCER SYNDROME EXCEPT FOR THE NCI REPORT AND THE ENACTMENT OF THE "RADIATION EXPOSURE COMPENSATION ACT" IN 1990 WHICH WAS VERY LIMITED IN ITS SCOPE.

B. I CONCLUDED THAT TWO QUESTIONS HAD TO BE FINALLY RESOLVED: (1) DID **HAZARDOUS** FALLOUT FROM THE NEVADA TESTING COVER THE SALT LAKE CITY AREA, AND (2) IF THERE WERE HAZARDOUS FALLOUT, COULD IT HAVE CONTRIBUTED TO THE ILLNESSES THAT KILLED LONNIE?

1. MY SEARCH CAME TO A TENTATIVE CONCLUSION SIX YEARS LATER IN 2003.

C. MY RESEARCH INCLUDED GOVERNMENT PUBLICATIONS, BOOKS WRITTEN BY PRIVATE AUTHORS BASED ON INFORMATION GATHERED FROM THE ATOMIC ENERGY COMMISSION AND THE PUBLIC HEALTH SERVICE UNDER THE "FREEDOM OF INFORMATION ACT" AND FROM FEDERAL COURT RECORDS, NEWSPAPER ARTICLES BOTH LOCAL AND NATIONWIDE, AND A NUMBER OF RESEARCH STUDIES BY GOVERNMENT, ACADEMIC AND PRIVATE RESEARCHERS.

1. EIGHTEEN RESEARCH STUDIES WERE INCLUDED IN MY RESEARCH

a. THREE OF THE STUDIES CONCLUDED THERE WAS NO PROBLEM WITH THE FALLOUT. AN ANALYSIS OF THESE STUDIES INDICATES SOME FLAWS IN THEIR BASIC ASSUMPTIONS AND DATA.

b. STUDIES CONCERNING THE EFFECTS OF RADIATION ON THE JAPANESE PEOPLE WERE CLASSIFIED FOR 25 YEARS AND NOT ACCESSIBLE TO NON-GOVERNMENT RESEARCHERS.

c. SOME OF THE EARLIER STUDIES WHICH BEGAN IN THE EARLY 1960'S, MOST NOTABLY THOSE OF DRS. KNAPP, WEISS AND PENDLETON WERE SUPPRESSED AND/OR ALTERED BY PERSONS ASSOCIATED WITH THE TESTING BECAUSE THEY INDICATED SEVERE HEALTH PROBLEMS WITH THE PEOPLE IN UTAH, NEVADA AND ARIZONA. IF THIS INFORMATION HAD BEEN RELEASED TO THE PUBLIC IT WOULD HAVE PROBABLY SHUT DOWN THE NEVADA TEST SITE.

d. STUDIES DONE BY DRS. KNAPP, LYON AND ARCHER LEAVE NO DOUBT THAT THE FALLOUT OVER THE SALT LAKE CITY AREA CONTRIBUTED TO THE DEATHS OF MANY CHILDREN BY LEUKEMIA AND CANCER.

2. THE STUDIES OF DRS. LYON, KNAPP, ARCHER, AND STERNGLASS FROM NEW YORK STATE REVEALED A RHYTHMIC RELATIONSHIP BETWEEN THE NUMBER OF LEUKEMIA CASES AND PERIODS OF HIGHER AND LOWER TESTING ACTIVITY.

2. THE SECOND PROJECT WAS AN ORAL HISTORY INTERVIEW FOR THE DEPARTMENT OF ORAL HISTORIES AT THE UNIVERSITY OF NEVADA, LAS VEGAS AND IS ALSO CONCERNED WITH OUR RESEARCH ON THE FALLOUT AS WELL AS OUR EXPERIENCES WITH LONNIE'S ILLNESS AND DEATH.

## II. THE RADIOACTIVE FALLOUT DEPOSITED ON THE SALT LAKE CITY AREA

- A. FOR MANY YEARS THE QUESTION OF WHETHER OR NOT HAZARDOUS FALLOUT HAD HIT SALT LAKE CITY WAS AN UNKNOWN AS FAR AS THE PUBLIC WAS CONCERNED. THE NEWS MEDIA PERIODICALLY INDICATED THERE WAS FALLOUT THAT FELL ON THE SALT LAKE CITY AREA, BUT JUST AS OFTEN THE ATOMIC ENERGY COMMISSION WOULD ISSUE PRESS RELEASES INDICATING THERE WAS EITHER NO FALLOUT OR IT WAS SO MINIMAL THAT IT WAS OF NO CONSEQUENCE. EVEN IN JUNE 2000 A GOVERNMENT PERSON WITH WHOM I TALKED INDICATED THAT FALLOUT OVER THE SALT LAKE AREA HAD BEEN EXAGGERATED.
- B. IN 1977 THE OFFICE OF DR. JOSEPH L. LYON, A RESEARCHER AT THE UNIVERSITY OF UTAH, CALLED US TO GET APPROVAL TO INCLUDE OUR SON, LONNIE, IN A STUDY HIS OFFICE WAS DOING ON THE POSSIBLE RELATIONSHIP OF CHILDREN'S LEUKEMIA WITH THE RADIOACTIVE FALLOUT FROM THE NEVADA TEST SITE. THIS WAS THE FIRST FIRM INDICATION WE HAD OF THE POSSIBILITY OF SUCH A RELATIONSHIP.
  1. THE LYON STUDY COVERED BOTH NORTHERN AND SOUTHERN UTAH
- C. TWENTY YEARS LATER, OUR DAUGHTER, JULIA, DID A STUDENT RESEARCH PAPER IN 1997 FOR A UNIVERSITY OF UTAH CLASS ON FALLOUT FROM THE NEVADA TESTING. SHE MET WITH US TO INQUIRE IF WE WERE AWARE OF A POSSIBLE RELATIONSHIP OF THE FALLOUT THAT HIT THE SALT LAKE AREA TO THE ILLNESSES THAT HAD CAUSED LONNIE'S DEATH. THIS AROUSED OUR INTEREST FURTHER AS TO A POSSIBLE CONNECTION.
- D. ALSO IN 1997, THE NATIONAL CANCER INSTITUTE ANNOUNCED THAT IT HAD COMPLETED A STUDY ON RADIOACTIVE FALLOUT FROM THE NEVADA TEST SITE. WE REQUESTED A COPY OF THE STUDY AND RECEIVED A SUMMARY REPORT WHICH INDICATED THAT THE SALT LAKE CITY AREA HAD, INDEED, RECEIVED RATHER HEAVY FALLOUT CONTAINING THE RADIONUCLIDE, IODINE-131. THE REPORT INDICATED THAT 10,000 TO 75,000 CHILDREN THROUGHOUT THE UNITED STATES COULD HAVE BEEN EXPOSED TO THE IODINE-131.
  1. TRAJECTORY MAPS REVEAL THAT UTAH BECAME THE "BLACK HOLE" DUMPING GROUND FOR MUCH OF THE FALLOUT

## III. MY SEARCH FOR ANSWERS BEGINS

- A. IT WAS 1997, 41 YEARS AFTER LONNIE'S DEATH AND NO ONE HAD ADDRESSED SOME FUNDAMENTAL QUESTIONS FOR THE PUBLIC RELATIVE TO THE FALLOUT/LEUKEMIA/

SUMMARY OF INDEPENDENT RESEARCH DATA  
CONCERNING THE RADIOACTIVE FALLOUT FROM THE NEVADA TEST SITE

TESTIMONY PRESENTED AT A HEARING  
OF  
THE NATIONAL ACADEMIES OF SCIENCES BOARD  
ON RADIATION EFFECTS RESEARCH  
HELD IN SALT LAKE CITY, UTAH JULY 29, 2004

- I. I AM EUGENE BRIDGES AND I AM ACCOMPANIED BY MY WIFE, ZENNA MAE
- A. WE WERE FULL-TIME RESIDENTS OF SALT LAKE CITY, UTAH FROM NOVEMBER 1947 TO NOVEMBER 1998
- B. WE PRESENTLY RESIDE AT 5459 HIGH NOON LANE, LAS VEGAS, NV
- C. WE HAVE SEVEN CHILDREN
1. EUGENE LAMONT (LONNIE) - BORN DECEMBER 19, 1949
- a. HE WAS DIAGNOSED WITH LYMPHO-SARCOMA AND ACUTE MYELOGENOUS LEUKEMIA ON DECEMBER 6, 1956
- b. FOLLOWING A VERY TORTUROUS ILLNESS IN THE HOSPITAL, HE DIED AT SEVEN YEARS OF AGE 23 DAYS LATER ON DECEMBER 29, 1956
- c. LONNIE WAS REPRESENTATIVE OF THE LEUKEMIA EPIDEMIC THAT BECAME PREVALENT AMONG CHILDREN IN THE SALT LAKE CITY AREA AND ALL OF UTAH FROM THE MID 1950'S TO THE MID 1960'S
- i. NO CREDIBLE INFORMATION WAS PROVIDED THE PUBLIC BY HEALTH SERVICES, FEDERAL OR STATE GOVERNMENTS, OR BY MEDICAL PEOPLE AS TO WHY LEUKEMIA WAS INCREASING SO RAPIDLY, WHAT IF ANY PROTECTION MIGHT BE AVAILABLE, OR WHAT TO DO IF YOU WERE FOUND TO HAVE LEUKEMIA. EXCEPT JUST TO DIE
2. OTHER CHILDREN
- a. JULIA ANN, MELISSA LEIGH AND DAVID KEVIN WERE ALL BORN BEFORE LONNIE'S DEATH
- b. CYNTHIA MARIE, LAURIE MICHELLE AND JONATHAN CHARLES WERE BORN AFTER LONNIE'S DEATH
- D. THIS SUMMER IN JUNE, WE PARTICIPATED IN TWO RADIATION FALLOUT RELATED PROJECTS IN LAS VEGAS, NV
1. THE FIRST WAS A DOCUMENTARY FOR THE NEW "ATOMIC MUSEUM" IN LAS VEGAS, NV WHICH CONCERNED OUR RESEARCH ON THE FALLOUT AND ITS EFFECT ON LONNIE AND OUR ENTIRE FAMILY



**M. EUGENE AND ZENNA MAE BRIDGES**

5459 High Noon Lane  
Las Vegas, NV 89118  
Telephone 702-873-8829  
E-Mail: [Mebridges@aol.com](mailto:Mebridges@aol.com)

January 18, 2007

**SUMMARY OF INDEPENDENT RESEARCH DATA  
PRESENTED AT A HEARING OF  
THE NATIONAL ACADEMIES OF SCIENCES BOARD  
IN SALT LAKE CITY, UTAH**

JULY 29, 2004

second for some isotopes, but may take thousands of years for others. The loss of neutrons, or radioactivity, continues until the original isotope transforms into an inert element. For example, radium goes through a number of radioactive isotope transformations on its path to ultimately becoming lead which is not radioactive, but is a stable element.<sup>120</sup>

#### EXTENDED LATENCY PERIOD OF RADIONUCLIDES

There is a tendency to think of the effects of the radioactive fallout in a finite sense - to think of the direct effect on people, animals and the environment being only at the time fallout occurred. However, in reality the effects from the fallout need to be thought of in an infinite sense.

Four factors affect the longevity of the presence of fallout radiation: (1) the frequency of repeated fallout over the same areas, (2) the transforming of low level radiation into a higher level due to the cumulative effect of repetitive fallout, (3) the long half life of some of the radionuclides inherent with the fallout - ranging from 28.79 years for strontium-90 to 30.07 years for cesium-137 and 87.7, 24,110 and 6,563 years respectively for plutonium isotopes 238, 239 and 240, and (4) the type of surface on which the fallout came into contact.

The contact surface could have a variety of effects depending on whether or not it was porous rock or soil, the amount of moisture from rain and snow, and if there were a hardpan rock or clay soil underneath the surface soil. Obviously, if the soil or rock were porous, the radionuclide particles could possibly leach to where it encountered either bedrock or underground aqua systems; if not porous, then the particulate would tend to stay at whatever level restrained it from leaching more deeply which means it could still be relatively near the surface in some areas.

Fallout fell on most of Utah and included not only southern

undergoing fission produce a radioactive gas, krypton-90, with a very short half life. Krypton-90 loses a beta particle and becomes rubidium-90 with a half life of 4.28 minutes. It is a rather unstable isotope that ignites spontaneously in air. Rubidium-90 then transforms into strontium-90 with a half life of 28.79 years. Strontium-90 transforms into yttrium-90, another radioactive, carcinogenic isotope which also ignites spontaneously in air. The yttrium-90 makes a final transformation into zirconium-90 which is stable.

Strontium-90 is particularly dangerous because its properties are so similar to calcium. Exposure and ingestion result in it being absorbed and stored in the body and bone structure of humans and animals. Since it has a relatively long half life, absorbed strontium-90 becomes a lethal generator of beta particles with the accompanying gamma radiation that kills or mutates cells, especially blood cells.

By 1953, the Public Health Service was keenly aware of the possible problems that could occur from the absorption of strontium-90. One of their memos indicated that the radioactive contamination in parts of Nevada and Utah had exceeded safety limits suggested by the National Committee on Radiation Protection. The memo also indicated there could be blood changes in the residents who were exposed in these geographical areas. The result was measurable increases in certain communicable diseases.

By 1955 the Atomic Energy Commission added sophisticated chemical analysis equipment to its radiation gathering network. One of the prime targets was strontium-90 because of its bone seeking characteristics.

\* \* \* \* \*

The half life of an isotope of a radioactive element is the amount of time it takes to lose half of its neutrons. It is a constantly changing process and may occur in just a fraction of a

become mutated.<sup>112</sup> It is one of the Russian Roulette games radiation plays with the cells.

Early research found that plutonium does not emit gamma rays. It was initially believed that plutonium was 50 times less active than radium. A tolerance dose of five grams was established as being safe for humans. Testing done by injections found that the plutonium gravitated to the bone structure; plutonium inhaled from an aerosol spray settled in the blood rich sacs in the lungs where oxygen and carbon dioxide are exchanged.<sup>113</sup> Both types of exposure produced irradiated cells.

Whereas about 90% of radium is excreted relatively soon after ingestion, plutonium is excreted much more slowly and less completely.<sup>114</sup>

Other research found that the amount of damage to the body is determined by the extent of exposure and the amount of plutonium ingested. It has a devastating effect on internal organs. They hemorrhage; the spleen, thymus glands and adrenals shrink; and the liver turns yellow and is necrotic. In some experiments, lymphomas and bone sarcomas were induced, pre-cancer developed at the injection sites and inhalation produced acute pneumonia.<sup>115</sup>

By 1945 it was found that plutonium rather than being less potent than radium was actually about 30 times more hazardous. Plutonium gravitates more readily than radium to vulnerable areas of the body. By settling in the liver, bones and bone marrow, its constant bombardment critically affects blood cell production.<sup>116</sup>

The toxicity of plutonium is such that it is estimated that 1/30 millionth of an ounce, if inhaled, will cause cancer.<sup>117</sup> It was found that 0.4 microns of plutonium cause lung cancer. If a person is a smoker, and is exposed to plutonium, their chances of developing lung cancer is 20 times greater than a non-smoker.<sup>118</sup>

**Strontium-90:**<sup>119</sup> Strontium-90 is another of the radioactive isotopes produced by a fission explosion. The uranium atoms while



the DNA during the division of a cell which results in a cell mutation. The conclusion is that cesium-137 has a variety of carcinogenic effects.<sup>108</sup>

**Iodine-131:** The radioactive characteristics of iodine-131 are the emission of high energy beta particles, gamma rays and low energy electrons.<sup>109</sup> Ingestion of iodine-131 and its absorption into the thyroid allowed the beta particles to irradiate the cells which could result in cancer depending on the length of exposure and the amount of particles ingested. Gamma radiation also induces leukemia. The combination of the particles, rays and electrons became a lethal killing machine even though the half life of iodine-131 is only eight days. It mattered not that exposure was direct, or indirect through the food chain, or that its recipients were adults or children, except that children's thyroids absorb iodine more readily than adult thyroids.<sup>110</sup>

**Plutonium:** In general, plutonium isotopes do not occur naturally, but are man-made. However, natural traces of plutonium are sometimes found with uranium deposits. In 1943, only a 20<sup>th</sup> of a milligram of plutonium existed which had been produced using a cyclotron. In September and October 1943, Berkeley scientists produced 1.2 milligrams of plutonium from one ton of uranium ore.<sup>111</sup>

Plutonium is a heavy metal. Most of its isotopes have half lives in fractions of a second. On the other end of the spectrum, the 238 isotope has a half life of 87.7 years, the 239 isotope has a half life of 24,110 years, and the 240 isotope's half life is 6,563 years. Plutonium isotopes are a radionuclide product of fission explosions. They emit alpha particles which are not penetrating, but if the particles are ingested or inhaled they can be dangerous because they emit high energy rays. Cells that are in proximity of the alpha particles are blasted by these rays. The first particle, or the millionth particle, may emit the specific energy that mutates a cell to cause cancer, or the cells may never



the Nevada Test Site, the cumulative radiation of these powerful shots over such short periods of time built an extremely dangerous radiation environment, some of which would persist indefinitely.

In addition to the fallout from the 1951 through 1962 shots that covered Salt Lake City, fallout from a number of other shots fell north, south and immediately west of Salt Lake City exposing the entire Wasatch Front area from Provo on the south to Ogden on the north where the major population of Utah is concentrated.<sup>107</sup> There are indications that Salt Lake City and the Wasatch Front were also recipients of fallout after 1962. However, the specific trajectory records of those shots have not yet been located.

#### **CHARACTERISTICS OF MAJOR FISSION RADIONUCLIDES**

Of all the hundreds of radionuclides produced in a fission explosion, there are four that were prevalent which have been found to be particularly dangerous - cesium-137, iodine-131, plutonium (238, 239 and 240), and strontium-90. They were surreptitious killers and became the **"Four Horsemen of Nuclear Death."**

**Cesium-137:** Cesium-137 has the ability to replace potassium in both plants and animals. Studies by Dr. Belton A. Burrows of ashes and maple syrup in New Hampshire and New York indicated a tenfold variation in the potassium-cesium ratio depending upon the differences in the nuclear fallout.

Cesium-137 originates with iodine-137, a radionuclide found in fission fallout. The isotopes between iodine-137 and the cesium-137 have short half lives while cesium-137 has a relatively long half life of 30.07 years. When cesium-137 decays, it emits beta particles and transforms into barium-137m which then transforms into barium-137. This decay process produces gamma rays, X-rays and low energy electrons called "Auger" electrons. Not only are gamma rays, X-rays and electrons responsible for irradiating the cells in a person's body, but the barium may replace magnesium from

1955, Apr. 15	Teapot: Met	(22 KT)
1955, May 5	Teapot: Apple 2	(29 KT)
1955, May 15	Teapot: Zucchini (Hotspot)	(28 KT)
* * * * *		
1957, June 2	Plumbob: Franklin	(140 Tons)
1957, June 18	Plumbob: Wilson	(10 KT)
1957, July 5	Plumbob: Hood	(74 KT)
1957, July 15	Plumbob: Diablo	(17 KT)
1957, July 24	Plumbob: Kepler	(10 KT)
1957, Aug. 18	Plumbob: Shasta	(17 KT)
1957, Aug. 23	Plumbob: Doppler	(11 KT)
1957, Aug. 30	Plumbob: Franklin Prime	(4.7 KT)
1957, Sep. 2	Plumbob: Galileo	(11 KT)
1957, Sep. 6	Plumbob: Wheeler	(197 Tons)
1957, Sep. 16	Plumbob: Newton	(12 KT)
1957, Sep. 23	Plumbob: Whitney	(19 KT)
1957, Sep. 28	Plumbob: Charleston	(12 KT)
1961, Sep. 15	Nougat: Antler	(2.6 KT)
1962, Apr. 14	Nougat: Platte	(1.85 KT)
1962, July 6	Storax: Sedan	(104 KT)
1962, July 14	Storax: Small Boy <sup>106</sup>	(Low Yield)

A critical consideration of the impact of the shots in the 1951-1955 period is that the seven 1952 shots were within less than one week to nearly three weeks of each other. The eight shots during 1953 were within three weeks or less from each other, and the seven 1955 shots were, likewise, within three weeks or less from each other.

The effect on Salt Lake of the short time frames between the Badger and Simon shots in 1953, and the Apple 2 and Zucchini shots in 1955 would have been to accumulate an inordinate amount of the most deadly radionuclides - iodine-131, strontium-90, cesium-137, and plutonium 238 and 239 isotopes. In spite of the distance from

1962 that deposited additional fallout on Salt Lake City and along the Wasatch Front.<sup>104</sup>

Following is a listing of the 24 Nevada test shots that deposited fallout in the Salt Lake City area during the 1951 through 1955 period. These were followed by 17 shots in the 1957 to 1962 period:<sup>105</sup>

<u>Date of Shot</u>	<u>Shot Series and Name</u>	<u>Yield</u>
1951, Nov. 19	Jangle: Sugar	(1.2 KT)
1951, Nov. 29	Jangle: Uncle	(1.2 KT)
1952, Apr. 1	Tumbler-Snapper: Able	(1 KT)
1952, Apr. 22	Tumbler-Snapper: Charlie	(31 KT)
1952, May 1	Tumbler-Snapper: Dog	(19 KT)
1952, May 7	Tumbler-Snapper: Easy	(12 KT)
		(8,000,000 d/m/ft2)
1952, May 25	Tumbler-Snapper: Fox	(11 KT)
1952, June 1	Tumbler-Snapper: George	(15 KT)
1952, June 5	Tumbler-Snapper: How	(14 KT)
1953, Mar. 24	Upshot-Knothole: Nancy	(24 KT)
		(15,000,000 d/m/ft2)
1953, Mar. 31	Upshot-Knothole: Ruth	(200 Tons)
1953, Apr. 6	Upshot-Knothole: Dixie	(11 KT)
1953, Apr. 15	Upshot-Knothole: Badger	(23 KT)
1953, Apr. 19	Upshot-Knothole: Badger	(Hotspot)
		(30,000 d/m/ft2)
1953, Apr. 25	Upshot-Knothole: Simon	(43 KT)
1953, May 19	Upshot-Knothole: Harry	(32 KT)
1953, May 25	Upshot-Knothole: Grable	(15 KT)
1953, June 4	Upshot-Knothole: Climax	(61 KT)
1955, Mar. 7	Teapot: Turk	(43 KT)
1955, Mar. 23	Teapot: Ess	(1 KT)
1955, Mar. 29	Teapot: Apple 1	(14 KT)
1955, Apr. 9	Teapot: Post	(2 KT)

politically killing the amendment if its parameters were to be broadened too much, thus making it too costly.<sup>98</sup>

The Krey study and the trajectory data in Mr. Miller's book, "Under the Cloud," show that there were at least 25 shots between 1951 and when Lonnie died in December 1956. They deposited extensive fallout on Salt Lake City and created two major Hot Spots. Two shots were in 1951, seven were in 1952, eight were in 1953 which included some with high yields (43 KT and 61 KT) and seven were in 1955.<sup>99</sup>

Frequently, the deposition of fallout over the state of Utah fell more heavily on side hills and bench areas than in the valleys due to atmospheric conditions. Dr. Pendleton's study would seem to confirm this phenomenon with the measurements he made following the shot Sedan fallout in 1962 when he found high concentrations on the Capitol hill lawns.<sup>100</sup> We resided near the Capitol in the 1951 to 1954 period which could have resulted in extraordinary exposure from the 1952 and 1953 fallout.

One of the shots delivering fallout over the Salt Lake area was the infamous shot, "Dirty Harry." It had a yield of 32 KT and was one of those detonated in 1953.<sup>101</sup> This shot gained its nickname because it carried so much radioactive debris into the atmosphere, a major portion of which was dispersed over St. George, Utah before moving northward to Salt Lake City. After leaving Utah, the fallout spread over most of the country east of the Rockies.<sup>102</sup>

Shot Zucchini was detonated May 15, 1955 just ten days after Apple 2. Both delivered fallout to Salt Lake City but the intensity and area covered by fallout from Zucchini created a hot spot in Salt Lake City and along the eastern borders of Colorado and Wyoming. Both hot spots merged on the 16<sup>th</sup> and covered Utah, northern Colorado, Montana and most of Wyoming.<sup>103</sup>

After 1956, there were at least 17 test shots through July



leukemia/cancer cases in more distant communities, the government's position was that the amount of fallout passing over remote areas such as Salt Lake City was insufficient to cause any serious problem.<sup>96</sup> Depending on atmospheric and wind conditions, the type of particulate in the cloud, and the altitude the cloud reached, frequently, this supposition was not valid. Often, the particulate in the fallout simply did not dissipate as rapidly as the Atomic Energy Commission and its scientists had initially contemplated. It consisted of a variety of sizes and weights of particles ranging from nodules the size of grains of sand to specks the size of water vapor. Consequently, particulate could drop to the ground rather quickly or it may go great distances in the upper atmosphere before descending to the ground.

**For many years the Atomic Energy Commission was adamant that no hazardous fallout hit Salt Lake City. However, Dr. Robert Pendleton's first hand contact with fallout in the Salt Lake City area and his subsequent research in 1962, the Dr. Harold L. Beck study completed in 1984, the Dr. Victor E. Archer study in 1987, the National Cancer Institute study released in 1997 and the fallout trajectory data in the book, "Under the Cloud," by Richard L. Miller (1999) provide adequate evidence of a serious amount of fallout in the Salt Lake area from 1951 through 1962.<sup>97</sup>**

In a private meeting with one of Senator Hatch's staff representatives in Salt Lake City on June 15, 2000, she stated that reports of hazardous fallout over Salt Lake City were exaggerated and incorrect. However, in a news release to the Deseret News published July 11, 2000 announcing the passage and signing of the 2000 Amendments to the 1990 Act, it stated that Senator Hatch was concerned about including Salt Lake County even though it received more fallout than some of the counties included in the amendments. Justification for not including Salt Lake County was his fear of



Clinton on July 10, 2000, broadened the Act's geographical scope, included additional types of diseases, and broadened the type of exposure to include workers who had been subjected to radiation from other sources such as mining. Fallout victims in Salt Lake City and along the Wasatch Front are still ignored without genuine rhyme or reason and receive no recognition or benefits.<sup>92</sup>

Studies done in the 1970's, 1980's and 1990's indicate that the Salt Lake area received more fallout and a greater amount of cumulative radiation than most of the other areas in Utah that are within the boundaries established by the Amended 1990 Act.<sup>93</sup>

Except for the National Cancer Institute study released in 1997 that delineated areas hit with fallout containing iodine-131, no other government related study has been given to the public that indicates the relative quantity of radioactivity from the fallout that covered the Salt Lake area.

Some of the fallout that hit Salt Lake was measured by the rate of disintegrations per second per square foot, or disintegrations per minute per square foot (d/s/ft<sup>2</sup> or d/m/ft<sup>2</sup>), and were unusually high. Disintegrations measure the rate of radioactivity, not the amount (rads, rems, roentgens or curies) of energy released. However, some broad, general equivalents can be developed.<sup>94</sup>

When the carcinogenic nature of fallout radiation was finally recognized, it was assumed by nearly everyone associated with the Nevada testing that a higher incidence of cancer and leukemia related to radiation would be found only in those communities nearest the test site. This assumption was based on the belief that the fallout particulate would rapidly dissipate as the fallout cloud traveled downwind.<sup>95</sup> Consequently, Salt Lake City, because of its distance away from the Nevada Test Site (nearly 400 miles), was not initially considered to be a risk area.

While it may have been possible to have fallout related

**M. EUGENE AND ZENNA MAE BRIDGES**

5459 High Noon Lane  
Las Vegas, NV 89118  
Telephone 702-873-8829  
E-Mail: [Mebridges@aol.com](mailto:Mebridges@aol.com)

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EXCERPT FROM OUR BOOK,

*"THE FORGOTTEN PATRIOTS"*

CONCERNING FALLOUT OVER THE SALT LAKE CITY AREA

1. IT WAS VERY LIMITED IN ITS SCOPE SINCE IT ONLY COVERED CASES THAT WERE PARTICULAR TYPES OF CANCER OR LEUKEMIA AND THE VICTIM HAD TO FURNISH PROOF OF EXPOSURE WITHIN A 200 MILE RADIUS OF THE TEST SITE; MEDICAL RECORDS HAD TO ALSO BE SUBMITTED.
  2. THE RESULT WAS THAT MANY VICTIMS OF THE FALLOUT FAILED TO QUALIFY FOR BENEFITS.
- H. SENATOR HATCH SPONSORED AMMENDMENTS TO THE ACT IN THE YEAR 2000 WHICH BROADENED THE TYPES OF DISEASES A LITTLE AND INCREASED THE GEOGRAPHICAL AREA TO INCLUDE SOME OF CENTRAL AND EASTERN UTAH.
1. THE IRONY OF THIS ACTION IS THAT THE MAJOR AMOUNT OF FALLOUT FELL ALONG THE WASATCH FRONT WHICH IS AN AREA RUNNING FROM SPANISH FORK ON THE SOUTH TO BRIGHAM CITY ON THE NORTH WITH THE MAJOR CITIES OF PROVO, OREM, SALT LAKE CITY, BOUNTIFUL AND OGDEN IN BETWEEN ALL OF WHICH WERE EXCLUDED.
- III. CONSIDERATIONS FOR THE PROPOSAL THAT RADIATION HAZARDS FROM THE NEVADA FALLOUT ARE STILL WITH US
- A. MINUTES OF CHEMICAL CORP IN 1952 INDICATING ENHANCEMENT OF ALL DISEASES FROM FULL BODY EXPOSURE TO GAMMA RADIATION
  - B. NO "SAFE" LEVEL OF RADIATION - GOFMAN/TAMPLIN STUDY IN 1965 AND F. PETER LIBASSI, GENERAL COUNSEL FOR THE PUBLIC HEALTH SERVICE AT 1979 RADIATION HEARING IN SALT LAKE CITY, UTAH
  - C. FOREGOING MEANT THAT MINIMUM "SAFE" STANDARDS ESTABLISHED BY AEC WERE MEANINGLESS.
  - D. WEISS AND KNAPP STUDIES IN 1960'S WERE PUT UNDER WRAPS BY AEC AND POLITICAL PEOPLE
  - E. ALTHOUGH OVER 300 RADIONUCLIDES WERE SPAWNED BY A FISSION EXPLOSION, THERE WERE FOUR THAT WERE PARTICULARLY CRITICAL TO THE HEALTH OF HUMANS AND ANIMALS

- D. THE TRIAL FOR THE "ALLEN" CASE BEGAN IN 1982 WITH JUDGE BRUCE JENKINS PRESIDING.
1. JUDGE JENKINS RULED IN FAVOR OF THE PLAINTIFFS BUT THE GOVERNMENT APPEALED THE CASE TO THE 10<sup>TH</sup> CIRCUIT COURT.
  2. THE CIRCUIT COURT APPLIED A NEW INTERPRETATION OF THE 1946 FEDERAL TORT CLAIMS ACT WHEREIN EMPLOYEES OF THE FEDERAL GOVERNMENT WERE TO HAVE TOTAL DISCRETION IN FOLLOWING AND ESTABLISHING THE POLICIES THEY FELT WERE NECESSARY TO CARRY OUT THE NUCLEAR TESTING IN NEVADA.
  3. IN ESSENCE, THE DOCTRINE OF SOVEREIGN IMMUNITY WAS BEING ENFORCED AND GENOCIDE HAD BEEN LEGALIZED.
- E. THE "ALLEN" CASE WAS HEARD IN FEDERAL DISTRICT COURT IN SALT LAKE CITY SOME 20 YEARS AFTER THE SHEEPMEN'S CASE.
1. IT WAS FOUND THAT FRAUD, LYING AND WITHHOLDING OF EVIDENCE ON THE PART OF GOVERNMENT ATTORNEYS AND WITNESSES HAD BEEN INVOLVED WITH THE SHEEPMEN'S CASE.
- F. THE SHEEPMEN'S CASE WAS REOPENED IN 1982.
1. JUDGE CHRISTENSEN REVERSED HIS PRIOR RULING WHICH SET A NEW PRECEDENT.
  2. HOWEVER, THE 10<sup>TH</sup> CIRCUIT OF APPEALS REVERSED THE DECISION ON THE BASIS OF IT HAVING EXCEEDED THE STATUTE OF LIMITATIONS.
  3. AN APPEAL TO THE SUPREME COURT WAS NOT HEARD.
- G. FOLLOWING A NUMBER OF CONGRESSIONAL HEARINGS, SENATOR ORRIN HATCH FROM UTAH SPONSORED A BILL WHICH BECAME THE RADIATION EXPOSURE COMPENSATION ACT OF 1990.

- A. THE GOVERNMENT POSITION WAS AND IS THAT THERE HAS TO BE A DIRECT CAUSE AND EFFECT BETWEEN RADIATION EXPOSURE AND CANCER/LEUKEMIA (THIS IS SIMILAR TO THE APPROACH THE TOBACCO INDUSTRY USED FOR SO MANY YEARS).
  - 1. THIS POSITION IS SPURIOUS SINCE THERE IS SELDOM ANY OCCASION THAT IS ABLE TO PROVIDE A DIRECT CAUSE AND EFFECT UNLESS A VICTIM HAS BEEN ENVELOPED BY A RADIOACTIVE CLOUD OR HAS BEEN DIRECTLY EXPOSED TO IRRADIATED MATERIAL.
- B. THE GOVERNMENT TOOK THE POSITION THAT THE RADIATION EFFECT DISSIPATED SUFFICIENTLY WITH DISTANCE FROM THE TEST SITE THAT IT WOULD HAVE NO HARMFUL EFFECT (THIS WAS NOT TRUE).
  - 1. ILLNESSES THAT WERE ATTRIBUTABLE TO FALLOUT WERE FOUND AS FAR AWAY AS UPPER STATE NEW YORK.
  - 2. THE USA REPORT IN 2002 ALSO INDICATES HOW EXPOSURE AND ILLNESS CAN DEVELOP MANY THOUSANDS OF MILES AWAY FROM THE TEST SITES.
  - 3. THE SIZE AND TYPE OF IRRADIATED PARTICULATE IN THE FALLOUT PROVIDES AN EXPOSURE THAT DEPENDS ON THE INTENSITY OF THE RADIATION AND, CONSEQUENTLY, THE TIME FRAME REQUIRED TO PRODUCE AN ILLNESS.
- C. THE FIRST MAJOR LAWSUIT FILED IN FEDERAL DISTRICT COURT IN SALT LAKE CITY, UTAH IN 1955/56 WAS BY SHEEPMEN WHO HAD ABOUT 4200 HEAD OF SHEEP LOST TO WHAT APPEARED TO BE RADIATION SICKNESS BASED ON INITIAL STUDIES OF THE SHEEP BY LOCAL AND GOVERNMENT VETERINARIANS.
  - 1. A NEW TEAM OF GOVERNMENT INSPECTORS "FOUND" THAT THE PROBLEMS WERE CAUSED BY "MALNUTRITION."
    - a. BASED ON THE EVIDENCE PRESENTED AT THE TRIAL, JUDGE A. SHERMAN CHRISTENSEN RULED AGAINST THE SHEEPMEN.



- a. MINUTES OF CHEMICAL CORP ADVISORY COUNCIL MEETING OF NOVEMBER 6, 1952, PAGE 25 ENTITLED, *CONTAMINATION*, FOR THE DEPARTMENT OF THE ARMY, U.S. ARMY DUGWAY PROVING GROUND STATED THAT FULL BODY EXPOSURE TO GAMMA RADIATION ENHANCES EVERY KIND OF DISEASE. GAMMA RADIATION IS EMITTED FROM IODINE-131, CESIUM-137 AND STRONTIUM-90, ALL RADIONUCLIDES FROM THE FISSION NUCLEAR PROCESS
- b. WEISS AND KNAPP STUDIES IN THE EARLY 1960'S REVEALED THAT MUCH OF THE FALLOUT THROUGHOUT UTAH, ARIZONA AND NEVADA ACTUALLY EXCEEDED THE SAFE STANDARDS ESTABLISHED BY THE AEC.
- c. STUDIES IN 1965 BY CREDIBLE GOVERNMENT SCIENTISTS, GOFMAN AND TAMPLIN FOUND THAT THERE WAS NO "SAFE" LEVEL OF RADIATION. THIS WAS CONFIRMED BY F. PETER LABASSI, GENERAL COUNSEL FOR THE PUBLIC HEALTH SERVICE, IN THE 1979 RADIATION HEARINGS IN SALT LAKE CITY.
- d. THE LYON STUDIES IN 1977/78 SUPPORTED THE FOREGOING STUDIES.
- e. THE EFFECT OF THE FOREGOING STUDIES INDICATED THAT THE "SAFE" STANDARDS ESTABLISHED BY THE AEC AND SOME OF THE SCIENTISTS INVOLVED WITH THE TESTING WERE MEANINGLESS.
- f. EXCEPT FOR THE NATIONAL CANCER INSTITUTE STUDY IN 1997 CONCERNING FALLOUT LOCATIONS OF THE NEVADA FALLOUT, A PRESS RELEASE IN 1999 BY THE NATIONAL ACADEMIES OF SCIENCES RELATIVE TO COMPARATIVE LEUKEMIA ILLNESSES OF MILITARY SERVICE PERSONNEL, AND THE INFORMATION OBTAINED IN 2002 BY USA TODAY RELATIVE TO THE DEATHS ALONG THE WEST COAST ATTRIBUTABLE TO FALLOUT FROM THE SOUTH PACIFIC AND SOVIET UNION TESTS, THERE HAS BEEN NO INFORMATION PROVIDED THE PUBLIC AS TO WHAT OVERALL EFFECTS THERE HAVE BEEN FROM THE NEVADA FALLOUT.

B. ATTITUDES OF POLITICAL, TEST SITE PEOPLE AND EASTERN PEOPLE TOWARD PEOPLE OF THE INTER-MOUNTAIN WEST

1. STATEMENT MADE THAT THE PEOPLE IN THE INTER-MOUNTAIN AREA WERE A "LOW USE LEVEL OF THE POPULATION."
2. ANOTHER STATEMENT WAS MADE THAT "IT WAS A D \_\_\_\_ GOOD PLACE TO GET RID OF USED RAZOR BLADES."
3. BOTH PRO-ACTIVELY AND BY DEFAULT THE PEOPLE BEING SUBJECTED TO THE FALLOUT BECAME HUMAN TEST BEDS FOR RADIATION EXPERIMENTS BY THE GOVERNMENT.
4. THE MAJORITY OF THE PEOPLE IN THE INTER-MOUNTAIN WEST WERE "MORMONS" WHICH GAVE RISE TO SOME CONJECTURE THAT PEOPLE IN THE MIDWEST WERE NOT ADVERSE TO HAVING THESE PEOPLE PUT AT RISK SINCE THE MORMON PEOPLE HAD BEEN DRIVEN OUT OF ILLINOIS AND MISSOURI IN THE MID 1800'S BY MOBS.
5. THE ARROGANT AND EGOTISTICAL MANNER IN WHICH GOVERNMENT VETS BROWBEAT THE SHEEP RANCHERS IN SOUTHERN UTAH BY DENYING THERE BEING ANY RADIATION EFFECT ON THEIR SHEEP DEATHS, BUT THAT IT WAS DUE ONLY TO MALNUTRITION, WAS WITHOUT PARALLEL.

C. INFORMATION FROM TEST SITE PEOPLE INDICATED FALLOUT RADIATION WOULD BE LOW LEVEL, HENCE NOT DANGEROUS

1. THIS DID NOT PROVE TO BE TRUE BECAUSE OF THE CUMULATIVE EFFECT OF THE RADIATION FROM FREQUENT SHOTS HAVING ESSENTIALLY THE SAME TRAJECTORIES.
  - a. THIS WAS PARTICULARLY TRUE THROUGHOUT THE SALT LAKE CITY AREA WHICH WAS ONE OF THE HEAVIEST HIT AREAS IN UTAH. THIS AREA HAS BEEN TOTALLY IGNORED UNDER RECA.
2. AFTER THE TESTING BEGAN, STUDIES FOUND THAT LOW LEVEL RADIATION WAS HAZARDOUS

**FACTS AND DATA CONCERNING RADIOACTIVE FALLOUT  
FROM THE NEVADA TEST SITE  
JANUARY 27, 1951 THROUGH SEPTEMBER 1992**

- I. COMMENCEMENT AND OPERATION OF NUCLEAR TEST PROGRAM IN NEVADA
  - A. INITIAL INFORMATION FURNISHED THE PUBLIC WAS THAT FALLOUT FROM THE TESTS WOULD BE CONTAINED WITHIN 100 MILES OF THE TEST SITE.
    1. FALLOUT FROM TRINITY TEST IN 1945, THE FIRST FUNCTIONAL ATOMIC BOMB, WENT ACROSS THE ENTIRE COUNTRY.
    2. LIVESTOCK IN THE GENERAL AREA SUFFERED FROM BETA BURNS AND EXPOSURE TO RADIATION.
    3. FALLOUT FROM THE POST WW II TESTS IN THE SOUTH PACIFIC DISPERSED FOR THOUSANDS OF MILES.
      - a. INFORMATION IN THE NEWSPAPER, USA TODAY, FEBRUARY 8, 2002, INDICATED THAT THE GOVERNMENT ESTIMATED BETWEEN 10,000 TO 15,000 DEATHS ON THE WEST COAST OF THE UNITED STATES WAS DIRECTLY ATTRIBUTABLE TO EXPOSURE TO THE RADIOACTIVE FALLOUT FROM THE SOUTH PACIFIC AND SOVIET UNION NUCLEAR TESTS.
    4. TEST SHOTS IN NEVADA WERE DETONATED ONLY WHEN PREVAILING WINDS WERE IN A NORTH, NORTH EASTERLY, OR EASTERLY DIRECTION SINCE THE COUNTRY IN THESE DIRECTIONS WAS MORE SPARSELY POPULATED.
      - a. THE MUSHROOM CLOUDS AND THEIR STEMS MOST OFTEN REACHED INTO THE STRATOSPHERE, WHERE FREQUENTLY THERE WERE SEVERAL LAYERS OF WIND EACH OF WHICH COULD BE GOING IN DIFFERENT DIRECTIONS THAN THE WIND AT GROUND LEVEL.
      - b. THE EFFECT OF THE WIND DIRECTION POLICY WAS THAT UTAH BECAME THE PRIMARY DUMPING GROUND FOR THE FALLOUT.

**M. EUGENE AND ZENNA MAE BRIDGES**

5459 High Noon Lane  
Las Vegas, NV 89118  
Telephone 702-873-8829  
E-Mail: [Mebridges@aol.com](mailto:Mebridges@aol.com)

January 18, 2007

**FACTS AND DATA CONCERNING RADIOACTIVE FALLOUT  
FROM THE NEVADA TEST SITE  
JANUARY 27, 1951 THROUGH SEPTEMBER 1992**

the Salt Lake City area had been the recipient of substantial radioactive fallout, I commenced an independent study to try to determine if the fallout could have contributed to the diseases and death of our son. The result was that there was no question that there was a direct cause and effect. Various studies done by government, university and independent researchers confirm this conclusion.

Until such time as the government is willing to make a positive effort to identify and compensate the many thousands of people not covered by RECA who were wounded or killed by the radiation from the 1951-1992 Nevada testing, there is no way that the government is going to have any credibility with the American people. If, indeed, there is no danger from the proposed Divine Strake test, the government should be willing to establish a reserve of appropriate funds and medical care in Nevada, Utah and Arizona prior to the test for anyone who could be affected by the test's fallout.

Sincerely

M. Eugene Bridges

C: Senator Harry Reid  
C: Representative Shelley Berkley



**M. EUGENE AND ZENNA MAE BRIDGES**

5459 High Noon Lane

Las Vegas, NV 89118

E-mail: [Mebridges@aol.com](mailto:Mebridges@aol.com)

January 7, 2007

DOE

Defense Threat Reduction Agency and

National Nuclear Security Administration:

Re: Proposed Divine Strake Test to be discussed in Las Vegas Meeting of January 9, 2007

Over a half century has elapsed since nuclear testing with its radioactive fallout began at the Nevada Test Site on January 27, 1951. In that period of time only a minuscule recognition through the amended 1990 Radiation Exposure Compensation Act has been acknowledged of the radiation exposure to United States citizens within roughly a 300 mile radius around the test site. The government continues to ignore the extent of the damage adversely and fatally affecting its citizens, livestock and the environment throughout a much larger area of the west as well as certain areas throughout the entire United States.

To try to implement any further testing of any kind at the Nevada Test Site, regardless of whether or not it is nuclear or non-nuclear, is an insult to the intelligence of the public, although this has never been a deterrent in the past. Since the proposed test supposedly involves non-nuclear explosives, a very simple solution is to perform the test at other test and firing ranges the government has so that there will be no disturbance of irradiated material such as would occur at the Nevada Test Site.

Justification by government agencies for using the Nevada Test Site is that the amount of irradiated fallout from the blast would be relatively minor. May I refer you to some government studies and testimony that indicates the danger of exposure to small amounts of radiation? First, studies done by Drs. John W. Gofman and Arthur R. Tamplin in the mid 1960's and published in May 1966 as a Lawrence Livermore Radiation Laboratory document under the title, "*Estimation of Dosage to Thyroids of Children in the U. S. from Nuclear Tests Conducted in Nevada During 1952 through 1957*" concludes that there is probably no safe minimum exposure level and that the risk per unit of radiation is greater at lower doses than at higher levels. This position was further substantiated by these researchers in a one hour presentation on January 28, 1970 before the Joint Committee on Atomic Energy chaired by Senator Chet Holifield. Second, F. Peter Libassi, counsel for the Public Health Service appeared before the 1979 Congressional hearings in Salt Lake City and stated, "there is no threshold level and no safe level of radiation exposure."

Our oldest son died at age 7 in December 1956 in Salt Lake City due to a combination of lymphosarcoma and acute myelogenous leukemia which was the first such case our pediatrician, surgeon and pathologist had seen in a child. He was born and lived his entire life in Salt Lake City. When the National Cancer Institute published its study in 1997 finally acknowledging that

1. BESIDES THE ATOMIC ENERGY COMMISSION AND THE PUBLIC HEALTH SERVICE MIS-REPRESENTATION AND HIDING OF MATERIAL FACTS FROM THE PUBLIC, ALL THREE BRANCHES OF GOVERNMENT - CONGRESS, EXECUTIVE, AND JUDICIAL CONTRIBUTED TO THE DECEPTION OF THE PUBLIC AND THE ALTERING OF THE LAW IN ORDER TO PROTECT THE NEVADA TESTING.
2. LAWSUITS OF SHEEPMEN
  - a. FEDERAL GOVERNMENT AND ITS LEGAL COUNSEL COMMITTED FRAUD IN THE SHEEPMEN'S LAWSUIT AGAINST THE GOVERNMENT; WAS NOT DISCOVERED UNTIL 20 YEARS AFTER THE CASE DECISION.
  - b. JUDGE CHRISTENSEN REVERSED HIS ORIGINAL RULING AGAINST THE SHEEPMEN BUT THE APPELLATE COURT REVERSED HIM BY RULING THAT THE FRAUD WAS NOT AGAINST THE COURT AND USE OF THE STATUTE OF LIMITATIONS.

VII. COMPARATIVE STATISTICS

VIII. A DAY OF REMEMBRANCE

- A. PROPOSE THAT JANUARY 27 BECOME A NATIONAL DAY OF REMEMBRANCE FOR THE FORGOTTEN PATRIOTS OF THE "COLD WAR"

1. IT WAS A FOREGONE CONCLUSION BY GOVERNMENT PEOPLE THAT THERE WOULD BE SOME LOSS OF LIFE AND RADIATION INJURY. THIS WAS JUSTIFIED ON THE BASIS THAT THE TESTING WOULD PROVIDE THE MEANS TO PROTECT OUR NATIONAL SECURITY AND WIN THE COLD WAR WITH RUSSIA.

D. OTHER DANGEROUS RADIONUCLIDES

1. BESIDES THE IODINE-131 AND PLUTONIUM PREVIOUSLY MENTIONED TWO OTHER DANGEROUS RADIONUCLIDES WERE GENERATED IN A FISSION EXPLOSION.
  - a. CESIUM-137
  - b. STRONTIUM-90
2. HALF-LIVES OF THE FOUR MAJOR RADIONUCLIDES
  - a. IODINE-131 - 8 DAYS
  - b. CESIUM-137 - 30.07 YEARS
  - c. PLUTONIUM 238, 239, 240 - 87.7 YEARS; 24,110 YEARS; 6,563 YEARS
  - d. STRONTIUM-90 - 28.79 YEARS

E. ATOMIC TESTING AT DUGWAY PROVING GROUNDS IN UTAH

1. NOVEMBER 6, 1952 MINUTES OF THE CHEMICAL CORP ADVISORY COMMITTEE WHICH WAS CONDUCTING THE ATOMIC TESTING AT DUGWAY PROVING GROUNDS STATED THAT GAMMA RADIATION WHICH IS EMITTED FROM MOST OF THE RADIONUCLIDES ENHANCES EVERY KIND OF DISEASE WHEN THERE IS FULL BODY EXPOSURE.
2. INTENTIONAL MELT-DOWNS OF EIGHT TEST NUCLEAR REACTORS PRODUCED 10 TO 200 TIMES THE AMOUNT OF RADIATION RELEASED BY THE THREE MILE ISLAND MELT-DOWN.

F. DECEPTION OF THE PUBLIC

2. SHOTS WERE NOT DETONATED UNLESS PREVAILING WINDS WERE GOING NORTH, NORTH EAST OR EAST
  - a. FAILED TO TAKE INTO ACCOUNT THAT WIND TRAVELED IN DIFFERENT DIRECTIONS AT DIFFERENT ALTITUDES THAT WERE COMMON TO THE HEIGHT TO WHICH THE MUSHROOM CLOUDS AND STEMS WOULD CLIMB
3. FALLOUT NOT DANGEROUS; JUST AN INCONVENIENCE
  - a. STUDY DONE BY DRS. JOHN W. GOFMAN AND ARTHUR R. TAMPLIN IN THE MID 1960'S AND PUBLISHED IN MAY 1966 AS A LAWRENCE LIVERMORE RADIATION LABORATORY DOCUMENT UNDER THE TITLE, *"ESTIMATION OF DOSAGE TO THYROIDS OF CHILDREN IN THE U. S. FROM NUCLEAR TESTS CONDUCTED IN NEVADA DURING 1952 THROUGH 1957"* CONCLUDES THAT THERE IS NO SAFE MINIMUM EXPOSURE LEVEL AND THAT THE RISK PER UNIT OF RADIATION IS GREATER AT LOWER DOSES THAN AT HIGHER LEVELS. THIS POSITION WAS FURTHER SUBSTANTIATED BY THESE RESEARCHERS IN A ONE HOUR PRESENTATION ON JANUARY 28, 1970 BEFORE THE JOINT COMMITTEE ON ATOMIC ENERGY CHAIRED BY SENATOR CHET HOLIFIELD.
  - b. F. PETER LABASSI, COUNSEL FOR THE PUBLIC HEALTH SERVICE APPEARED BEFORE THE 1979 CONGRESSIONAL HEARINGS IN SALT LAKE CITY AND STATED, "THERE IS NO THRESHOLD LEVEL AND NO SAFE LEVEL OF RADIATION EXPOSURE.
- B. ONLY SHOTS UP TO 50 KT WOULD BE DETONATED IN NEVADA; LARGER SHOTS WOULD BE DETONATED IN THE SOUTH PACIFIC
  1. MANY SHOTS OF 200 KT AND SOME SHOTS EXCEEDING 1000 KT WERE DETONATED
  2. HIROSHIMA BOMB WAS 15 KT AND NAGASAKI BOMB WAS 20 KT
- C. KNOWLEDGE EXISTED PRIOR TO COMMENCEMENT OF NEVADA TESTING CONCERNING EFFECT OF RADIOACTIVITY ON PEOPLE



- V. FOR MANY YEARS THE FEDERAL GOVERNMENT (AEC) DENIED THAT THERE WAS ANY HAZARDOUS FALLOUT COMING OVER SALT LAKE CITY
- A. IN 1997 THE NATIONAL CANCER INSTITUTE RELEASED A SUMMARY OF A STUDY THEY HAD DONE WHICH INDICATED THAT THE SALT LAKE CITY AREA HAD RECEIVED MORE FALLOUT THAN MOST OTHER AREAS OF THE COUNTRY. IT ALSO INDICATED THAT 10,000 TO 75,000 CHILDREN MAY HAVE BEEN EXPOSED TO IODINE-131 FROM THE FALLOUT
- B. THE 1997 NCI STUDY PROMPTED EUGENE TO COMMENCE AN IN-DEPTH RESEARCH PROJECT TO DETERMINE JUST HOW MUCH FALLOUT HAD HIT SALT LAKE CITY AND WHAT CONNECTION THERE MAY HAVE BEEN BETWEEN THE FALLOUT AND LONNIE'S DISEASES
- C. EUGENE'S RESEARCH ON SALT LAKE CITY FALLOUT
1. A TOTAL OF 42 SHOTS HAD FALLOUT THAT HIT THE SALT LAKE CITY AREA - 25 FROM 1951 TO 1956 AND 17 AFTER LONNIE'S DEATH IN 1956
  2. SOME FALLOUT HAD MINIMAL INTENSITY BUT OTHER FALLOUT WAS SUBSTANTIAL
    - a. SALT LAKE CITY WAS THE RECIPIENT OF SUFFICIENT FALLOUT FROM SHOT ZUCCHINI IN MAY 1955 TO CAUSE A "HOT SPOT"
    - b. BECAUSE OF THE LONG HALF LIFE OF SOME OF THE MAJOR RADIONUCLIDES AND THE SHORT TIME SPANS IN BETWEEN SHOTS THAT FOLLOWED THE SAME TRAJECTORY, THERE WAS A CUMULATIVE EFFECT THAT INTENSIFIED THE RADIATION IN A GIVEN AREA.

VI. OTHER REVELATIONS FROM EUGENE'S RESEARCH

- A. DECEPTIONS OF FEDERAL GOVERNMENT IN THE SELECTION OF THE NEVADA TEST SITE
1. FALLOUT WOULD NOT GO MORE THAN 100 MILES BEYOND THE TEST SITE BOUNDARIES AND COULD BE CHanneled ALONG A 100 MILE WIDE CORRIDOR WHICH WAS ONLY LIGHTLY INHABITED.



1. LATER RESEARCH STRONGLY INDICATED THAT THE DISINTEGRATION OF HIS ORGANS WAS LIKELY ATTRIBUTABLE TO AN EXPOSURE TO PLUTONIUM WHICH IS A DIRECT PRODUCT OF FISSION EXPLOSIONS
  2. UTAH HAS 3.8 TIMES MORE PLUTONIUM DEPOSIT THAN ANYWHERE ELSE IN THE UNITED STATES
  3. LONNIE'S DEATH IN DECEMBER 1956 COINCIDED VERY WELL WITH THE AVERAGE GESTATION PERIOD FOR LEUKEMIA WHEN CONSIDERING THAT SOME OF THE HEAVIEST FALLOUT OVER SALT LAKE CITY WAS IN 1952/1953.
  4. LONNIE WAS BORN AND REARED IN SALT LAKE CITY AND HAD NOT BEEN IN SOUTHERN UTAH.
- B. ZENNA MAE KEPT NOTES OF EACH DAY OF LONNIE'S STAY IN THE HOSPITAL
1. SHE LATER TYPED UP HER NOTES AND WROTE SOME PROSE THAT DESCRIBED LONNIE'S CHARACTER DURING HIS SHORT LIFE.
  2. ZENNA ALSO WROTE A POEM DESCRIBING OUR FEELINGS THE SUMMER AFTER HIS DEATH.
  3. LONNIE'S SISTER, JULIA, HAS ALSO WRITTEN ABOUT THE EFFECT HIS DEATH HAD ON HER AND OTHER MEMBERS OF OUR IMMEDIATE AND EXTENDED FAMILIES.
- IV. THE FIRST KNOWLEDGE THAT THERE MAY HAVE BEEN A CONNECTION BETWEEN LONNIE'S DISEASES AND THE NEVADA RADIOACTIVE FALLOUT
- A. LONNIE WAS INCLUDED IN THE 1977/1978 STUDIES OF DR. JOSEPH LYON WHO WAS WITH THE UNIVERSITY OF UTAH
  - B. WE NEVER LEARNED THE RESULTS OF DR. LYON'S STUDIES UNTIL THE LATE 1990'S
  - C. DR. LYON'S STUDIES SHOWED A DEFINITE RELATIONSHIP IN BOTH SOUTHERN AND NORTHERN UTAH

OVER A HALF CENTURY AFTER THE TESTING COMMENCED ON JANUARY 27, 1951 AND AFTER NUMEROUS STUDIES HAVE ESTABLISHED THE DEADLY IMPACT THE RADIOACTIVE FALLOUT HAS HAD ON ITS CITIZENS. IN THIS PERIOD OF TIME ONLY A MINUSCULE RECOGNITION BY THE FEDERAL GOVERNMENT THROUGH THE AMENDED 1990 RADIATION EXPOSURE COMPENSATION ACT HAS ACKNOWLEDGED THAT THERE WAS RADIATION EXPOSURE TO UNITED STATES CITIZENS WITHIN ROUGHLY A 300 MILE RADIUS AROUND THE TEST SITE. THE FEDERAL GOVERNMENT CONTINUES TO IGNORE THE EXTENT OF THE DAMAGE - THE DEBILITATING AND FATAL AFFECT ON ITS CITIZENS, LIVESTOCK AND THE ENVIRONMENT THROUGHOUT A MUCH LARGER AREA OF THE WEST AS WELL AS CERTAIN AREAS THROUGHOUT THE ENTIRE UNITED STATES. FOLLOWING A MEETING SPONSORED BY THE NATIONAL ACADEMIES OF SCIENCES IN SALT LAKE CITY, JULY 2004, IT WAS CONCLUDED THAT GEOGRAPHICAL DISTANCES/LIMITATIONS FROM THE TEST SITE ARE IRRELEVANT.

### III. LIFE AND DEATH OF LONNIE

- A. LONNIE DIED AT AGE 7 IN DECEMBER 1956 IN SALT LAKE CITY DUE TO A COMBINATION OF LYMPHOSARCOMA AND ACUTE MYELOGENOUS LEUKEMIA WHICH WAS THE FIRST CASE OUR PEDIATRICIAN, SURGEON AND PATHOLOGIST HAD SEEN OF THIS COMBINATION OF DISEASES IN CHILDREN. FROM THE TIME OF THE DIAGNOSIS AND SURGERY REMOVING THE SARCOMA GROWTH FROM HIS BOWEL UNTIL HE PASSED AWAY WAS LESS THAN A MONTH. HIS AUTOPSY REVEALED THAT IN THAT SHORT TIME FRAME HE HAD MANY NEW CANCEROUS GROWTHS THROUGHOUT HIS ABDOMINAL CAVITY AND MOST OF HIS ORGANS HAD DISINTEGRATED WHICH AGAIN WAS UNUSUAL AND UNKNOWN.

Following the 2004 hearings in Salt Lake City and Idaho by the National Academies of Sciences, estimates of American casualties from the fallout have been revised to where they exceed the casualties suffered by the Japanese people from the Hiroshima and Nagasaki bombings. It is interesting that our government has never provided any figures to the public, other than the 1997 report by the National Cancer Institute, of just how many people may have been affected. Perhaps you may be aware of other government studies. They would be of great interest to me. On a local basis, it goes without saying that there are far more casualties in just Utah than what have been recognized by RECA.

In August of this year, the Atomic Testing Museum in Las Vegas hosted some survivors from the Hiroshima and Nagasaki bombings. Of course Japan has recognized victims of the bombings with Memorial facilities. Then, on September 11, victims of the multiple terrorist attacks were recognized by family members, President Bush and citizens across the United States. Also, a memorial is being built in New York City. It is entirely fitting and appropriate that these victims be recognized.

**IT IS TIME, HOWEVER, THAT THE VICTIMS OF THE NEVADA TESTING BE RECOGNIZED. IT IS PROPOSED THAT JANUARY 27, THE DAY TESTING BEGAN IN 1951, BE SET ASIDE AS A MEMORIAL DAY TO HONOR THESE VICTIMS WHO ARE THE "FORGOTTEN PATRIOTS" OF THE COLD WAR.**

Will you please give this proposal your most serious consideration? We shall be pleased to assist with the promotion of such a memorial day in any way we can. You may contact us by telephone or e-mail if you deem that this proposal may have merit.

Also, please advise us if you have any interest in receiving a copy of our book.

Sincerely

C: The Honorable Senator Harry Reid  
C: The Honorable Representative Shelley Berkley